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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/392,018	09/08/1999	PETER B. MADOFF	10575/004001	9462

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EXAMINER

THOMPSON JR, FOREST

ART UNIT PAPER NUMBER

2165

DATE MAILED: 12/21/2001

Please find below and/or attached an Office communication concerning this application or proceeding.

RECEIVED

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FISH & RICHARDSON, PC.  
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DOCKETED BY PRACTICE SYSTEMS	
Action Code	Response to OA
Base Date	12/21/01
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6-21-02  
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# Office Action Summary

Application No.

09/392,018

Applicant(s)

MADOFF et al.

Examiner

Forest Thompson Jr.

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– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE three MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 7/25/01
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 35 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirements.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some\* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892) 18) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 19) ☐ Notice of Informal Patent Application (PTO-152)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). \_\_\_\_\_ 20) ☐ Other: \_\_\_\_\_

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## **DETAILED ACTION**

### ***Response to Amendment***

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action (See Paper No. 4). The text of those sections of Title 35, U.S. Code not otherwise provided in a prior Office action will be included in this action where appropriate.
2. This action is responsive to the Request for Continued Prosecution Application filed on 24 September 2001 and the amendment (amendment B) filed on 25 July 2001 (see Paper #9). Amendment B amended claims 5, 7, 26-27, and 29, and deleted claim 31. **Claims 1-30 are pending.**
3. **Claims 1-30 have been examined.**

### ***Double Patenting***

4. Claims 27, 29 and 31 were objected to under 37 CFR 1.75 as being a substantial duplicate of claims 26, 28 and 30. Applicant's amendment reassigned the dependencies of these claims, thus overcoming the objection. Therefore, examiner withdraws the objection.

### ***Claim Rejections - 35 USC § 102***

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5. Claims 1, 11 and 18 were rejected under 35 U.S.C. 102(e) as being anticipated by **Richard et al.** (U.S. Patent No. 6,016,483), and separately by Chan, K.C.; Christie, William G.; Schultz, Paul H.; "Market structure and the intraday pattern of bid-ask spreads for NASDAQ securities," Journal of Business, vol. 68, n1, pg. 35(26), 07666891; January 1995 (hereafter referred to as **Chan et al.**). Each reference anticipates claims 1 and 11. **Chan et al.** does not explicitly identify the use of computers, workstations nor servers as used in the art, as per claim 21. The rejections are maintained. The rejections are presented below and essentially correspond to the previous rejections, but include some additional elaboration for clarity and completeness.

Claim 1: **Richard et al.** discloses:

- receiving orders from customers for the product (col. 8 lines 6-34);
- determining an imbalance condition between received buy orders and received sell orders for the product (col. 9 lines 3-21); and
- posting an allocation message to market maker participants to communicate an expected allocation of the imbalance for execution at an initial opening of the market on the side of the imbalance in the event that the imbalance exists at the opening (col. 6 line 46 - col. 7 line 17).

Additionally, **Chan et al.** illustrates aspects of claim 1 of the claimed invention by disclosing:

- receiving orders from customers for the product (pg. 3, last para. - pg. 4 para. 2);

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- determining an imbalance condition between received buy orders and received sell orders for the product(pg. 4 para. 2); and
- posting an allocation message to market maker participants to communicate an expected allocation of the imbalance for execution at an initial opening of the market on the side of the imbalance in the event that the imbalance exists at the opening (pg. 3, last para. - pg. 4 para. 4), disclosed by **Chan** in *Individual dealers can elect to post bids and offers that either match or lie away from the inside quotes* (pg. 4 para. 4), and *In the case of large order imbalances, indicative quotes must be disseminated* (pg. 13 para 8).

Claim 11: Claim 11 is written as a computer program product and contains the same limitations as claim 1; therefore, the same rejection is applied;

Claim 18: **Richard et al.** discloses:

- accept limit orders (col. 3 lines 51-67; col. 4 lines 1-3; col. 8 lines 6-34; col. 12 lines 51-57); and
- allocating the remaining imbalance amongst market makers after applying predefined relative indications to eliminate the imbalance (col. 7 lines 27-33).

Additionally, **Chan et al.** discloses:

- accept limit orders (pg. 2-3, para. I.); and

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- allocating the remaining imbalance amongst market makers after applying predefined relative indications to eliminate the imbalance (pg. 1 para.3).

6. Claims 2-5, 12-15, 20-24, and 26-31 are rejected under 35 U.S.C. 102(e) as being anticipated by **Richard et al.** (U.S. Patent No. 6,016,483).

Claim 2: **Richard et al.** discloses the orders are orders at a market price and are orders for customer accounts (col. 9 lines 15-25).

Claim 3: **Richard et al.** discloses disseminating a message that indicates a current imbalance between buy and sell orders (col. 6 line 46 - col. 7 line 17).

Claim 4: **Richard et al.** discloses the products are financial instruments (col. 2 lines 63-66; col. 3 lines 62-67; col. 4 line 1).

Claim 5: **Richard et al.** discloses:

- disseminating a message that indicates a current imbalance between buy and sell orders for the product (col. 6 line 46 - col. 7 line 17); and
- wherein determining an imbalance condition, posting an allocation message to market participants, and disseminating an imbalance message over regular periods of time occur between

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the initial reception of orders and actual opening of the trading system (col. 6 line 32 - col. 7 line 17).

Claim 12: Claim 12 is written as a computer program product and contains the same limitations as claim 2; therefore, the same rejection is applied;

Claim 13: Claim 13 is written as a computer program product and contains the same limitations as claim 3; therefore, the same rejection is applied;

Claim 14: Claim 14 is written as a computer program product and contains the same limitations as claim 4; therefore, the same rejection is applied;

Claim 15: Claim 15 is written as a computer program product and contains the same limitations as claim 5; therefore, the same rejection is applied;

Claim 20: **Richard et al.** discloses instructions that cause the computer to execute the entire amount of accumulated shares as a single block at one price (col. 9 lines 33-54).

Claim 21: **Richard et al.** discloses:

- a plurality of workstations for entering orders (col. 8 lines 10-65);

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- a server computer (col. 8 lines 9-10), as a central controller;
- receive orders for a product (col. 8 lines 6-34);
- determine an imbalance condition between received buy orders and received sell orders (col. 9 lines 3-21); and
- post an allocation message to market maker participants to communicate an expected allocation of the imbalance for execution at an initial opening of the market in the event that the imbalance exists at the opening (col. 6 line 46 - col. 7 line 17).

Claim 22: **Richard et al.** discloses the computer program product further comprises instructions for causing the server to receive limit orders for the product (col. 3 lines 51-67; col. 4 lines 1-3; col. 8 lines 6-34; col. 12 lines 51-57).

Claim 23: Claim 23 is written as a computer program product and contains the same limitations as claim 3; therefore, the same rejection is applied.

Claim 24: Claim 24 is written as a computer program product and contains the same limitations as claim 4; therefore, the same rejection is applied.



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Claim 26: **Richard et al.** discloses disseminating a message that indicates a current imbalance between buy and sell orders for the product is a publicly disseminated message (col. 11 lines 19-25).

Claim 27: Claim 27 is written as a computer program product and contains the same limitations as claim 26; therefore, the same rejection is applied.

Claim 28: **Richard et al.** discloses instructions to disseminate a message that indicates a current imbalance between buy and sell orders for the product is a publicly disseminated message (col. 6 line 46 - col. 7 line 17; col. 11 lines 19-25).

Claim 29: Claim 29 is written as a computer program product and contains the same limitations as claim 28; therefore, the same rejection is applied.

Claim 30: **Richard et al.** discloses disseminating a message that indicates a current imbalance between buy and sell orders for the product is a publicly disseminated message (col. 6 line 46 - col. 7 line 17; col. 11 lines 19-25).

***Claim Rejections - 35 USC § 103***

7. Claims 6-10, 16-17, 19, and 25 were rejected under 35 U.S.C. 103(a) as being unpatentable over **Richard et al.** (U.S. Patent No. 6,016,483), and further in view of Chan, K.C.;

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Christie, William G.; Schultz, Paul H.; "Market structure and the intraday pattern of bid-ask spreads for NASDAQ securities," Journal of Business, vol. 68, n1, pg. 35(26), 07666891; January 1995 (hereafter referred to as **Chan et al.**). The rejections are maintained. The rejections are presented below and essentially correspond to the previous rejections, but include some additional elaboration for clarity and completeness.

As per claim 6, neither **Richard et al.** nor **Chan et al.** specifically disclose establishing a lock-in period that requires market makers to specify whether they accept the last anticipated share allocation received by them in order that their allocation will not be further reduced. However, Official Notice is taken that establishing a lock-in period (e.g., a period of time when an option is open or available and may be selected, accepted and obligated) is old and well known to one skilled in the art at the time the invention was made. This concept is used in the stock market as well as other areas of the business world in the conduct of business. Also, a lock-in period is implied/inferred by **Richard et al.** in:

- The opening prices and corresponding volatilities, once determined by the present invention, can be output to market makers (and, if seen as desirable, to other interested parties) so as to assist market makers to determine their post-opening desired target position (col. 7 lines 13-17); and
- At the second stage, each market maker supplies as input his or her current delta and gamma positions prior to the opening and his or her desired delta and gamma positions after the

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opening. (If required, other measures, such as theta, rho and vega, also could be included as target variables.) Public orders are allocated to market makers according to the solution to this second optimization problem (col. 7 lines 27-33).

These disclosures of **Richard et al.** imply/infer a period of time (e.g., a lock-in period) prior to the opening during which market makers may input their desired positions at or after the opening. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to modify the disclosure of **Richard et al.** to disclose establishing a lock-in period, as inferred by the disclosures of **Richard et al.**, because this facilitates the conduct of desired trading in a timely manner.

Claim 7: **Richard et al.** discloses applying received predefined relative indications to an imbalance that exists subsequent to establishing the lock-in period (col. 7 lines 27-33).

Claim 8: **Richard et al.** discloses allocating the remaining imbalance amongst market makers after applying predefined relative indications to eliminate the imbalance (col. 7 lines 27-33).

Claim 10: **Richard et al.** discloses the orders are limit orders and wherein marketable ones of those limit orders are applied to reduce the imbalance (col. 6 line 32 - col. 7 line 17; col. 10 line 40 - col. 11 line 16).

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Claim 16: Claim 16 is written as a computer program product and contains the same limitations as claim 6; therefore, the same rejection is applied;

Claim 17: Claim 17 is written as a computer program product and contains the same limitations as claim 7; therefore, the same rejection is applied;

Claim 19: **Richard et al.** discloses instructions that cause the computer to determine an opening price based on first free and open quote and whether there is still an imbalance (Abstract; col. 9 lines 33-54).

Claim 25: Claim 25 is written as a computer program product and contains the same limitations as claim 18; therefore, the same rejection is applied.

***Claim Rejections - 35 USC § 103***

8. Claim 9 was rejected under 35 U.S.C. 103(a) as being unpatentable over **Richard et al.** (U.S. Patent No. 6,016,483), **and separately over** Chan, K.C.; Christie, William G.; Schultz, Paul H.; "Market structure and the intraday pattern of bid-ask spreads for NASDAQ securities;" Journal of Business, vol. 68, n1, pg. 35(26), 07666891; January 1995 (hereafter referred to as **Chan et al.**). The rejections are maintained. The rejections are presented below and essentially

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correspond to the previous rejections, but include some additional elaboration for clarity and completeness.

Claim 9: **Richard et al.** disclose determining an opening price based on allocated imbalance amongst the market participants and applied predefined relative indications (col. 6 line 46 - col. 7 line 47).

Additionally, **Chan et al.** discloses:

- applying received predefined relative indications to an imbalance that exists subsequent to establishing the lock-in period (pg. 1 para.3);
- allocating the remaining imbalance amongst market makers after applying predefined relative indications to eliminate the imbalance (pg. 1 para.3); and
- determining an opening price based on allocated imbalance amongst the market participants and applied predefined relative indications (pg. 1 para.4).

### ***Response to Arguments***

9. Applicant's arguments filed on 25 July 2001 (see Paper #9) have been fully considered but they are not persuasive.

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On pg. 3 in the first 3 paragraphs, applicant addresses the double patenting objection in Paper #7. Applicant's amendment overcomes examiner's objection. Examiner withdraws the objection. ✓

On pg. 3-4 applicant argues that his invention is patently distinct over Ferstenberg. Examiner agrees Examiner previously applied new art (see Paper #7) that replaces Ferstenberg. ✓

On pg. 4 applicant argues that claims 1 and 11 are patentable over the references since *the references neither describe nor suggest disseminating a message to market participants that indicates a current imbalance between buy and sell orders for the product and posting an allocation message to market maker participants to communicate an expected allocation of the imbalance for execution at an initial opening of the market on the side of the imbalance in the event that the imbalance exists at the opening, as recited in claim 1 for example.* Examiner disagrees. **Richard et al.** discloses (at col. 6 line 46 - col. 7 line 17):

- These residual imbalances among public orders are required to be offset by assigning contra positions to the market makers; and
- The opening prices and corresponding volatilities, once determined by the present invention, can be output to market makers (and, if seen as desirable, to other interested parties) so as to assist market makers to determine their post-opening desired target position.

This output infers a communication to market makers and others.

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**Chan** discloses:

- *Individual dealers can elect to post bids and offers that either match or lie away from the inside quotes* (pg. 4 para. 4), and
- *In the case of large order imbalances, indicative quotes must be disseminated* (pg. 13 para 8).

Examiner states that the inferred communication of **Richard et al.** and the resulting market makers determinations and **Chan's** *posting bids and offers and indicative quotes must be disseminated* disclose the claim's features. Examiner maintains the rejection.

As per claim 3, applicant argues on pg. 5 that *claim 3 recites disseminating a message that indicates a current imbalance between buy and sell orders for the product. Rickard does not suggest disseminating a message that indicates the extent of an imbalance. The Examiner relies upon column 8, line 67 through column 9 line 14 to support Rickard's teaching of a message that indicates an extent of an imbalance. However, no message is described in this portion of the reference. This passage describes Rickard's algorithm to calculate implied volatilities. Examiner disagrees. Richard et al. discloses The opening prices and corresponding volatilities, once determined by the present invention, can be output to market makers (and, if seen as desirable, to other interested parties) so as to assist market makers to determine their post-opening desired target position (col. 7 lines 13-17). Examiner asserts that this encompasses applicant's claim language. Examiner maintains the rejection.*

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As per claim 5, on pg. 5 applicant argues In **Chan** there is no suggestion of an allocation as discussed above, and in **Rickard** there is no suggestion of disseminating a public message that indicates the extent of an imbalance or posting an allocation message. Hence, the references cannot suggest periodically disseminating a message that indicates a current imbalance between ... to encourage contra-side interest ...; and periodically ... posting the allocation message to market participants over regular periods of time ... to allow market participants to adjust their positions in the product. Examiner disagrees. **Rickard et al.** discloses The opening PRICES and corresponding volatilities, once determined by the present invention, **can be output to market makers (and, if seen as desirable, to other interested parties)** (*emphasis added*) so as to assist market makers to determine their post-opening desired target position (col. 6 line 46 - col. 7 line 17). Examiner states that this disclosure provides market makers the opportunity to adjust their position in the product, as claimed by applicant. Examiner states that this disclosure encompasses the invention as argued by applicant. Examiner maintains the rejection.

As per claim 6, on pg. 6, applicant argues *Applicants claim 6 is likewise patentably distinct over the references since the references neither describe nor suggest establishing a lock-in period that requires market makers to specify whether they accept the last anticipated share allocation received by them in order that their allocation will not be further reduced. The examiner admits that there is no teaching in the references of establishing a lock-in period. The*



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*examiner takes official notice of establishing lock-in periods. However, while the concept of a lock-in period may be old, that does not support or justify taking official notice of a lock-in period that enables market makers to specify acceptance of the last anticipated share allocation in order that an allocation will not be further reduced. The examiner has not established any foundation for such notice nor motivation to suggest the combination of the references with this so-called well known teaching. Examiner disagrees. See para. 7 above.*



As per claim 7, on pg 6 applicant argues *claim 7 is further patentably distinct over the references since the references neither describe nor suggest applying received predefined relative indications to an imbalance that exists subsequent to establishing a lock-in period. The Examiner relies on Chan to teach predefined relative indications. However, the teachings of this reference do not describe the concept of a predefined relative indication, as recited by applicants. Applicant has amended claim 7 to recite, as set forth in the specification, a predefined relative indication corresponds to "a willingness to trade that resides in the system and remains dormant and unknown by other participants until executed,."* No such teaching of predefined relative indications is found in Chan. Thus, the reference does not describe or suggest applying predefined relative indications to an imbalance that exists subsequent to establishing a lock-in period. Thus, claim 7 is further patentably distinct over the reference. Examiner disagrees. **Rickard et al.** discloses The third feature (III) provides an improvement over current methods for the assignment of market makers to the required positions in the

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opening. Each market maker comes to the opening with his or her own current position (as specified by delta and gamma) and his or her desired target position after the opening (as specified by delta and gamma). The desired target position may be dependent upon the absolute and relative values of implied volatilities determined at the opening. These current and target positions impact the market maker's preferences on participation in the rectification of imbalances in public orders among the different series. Thus, according to the principles of the present invention, the assignment of public orders can be optimized across all market makers (col. 6 lines 33-45). Examiner states that this disclosure encompasses applicant's claim and overcomes his arguments. Examiner maintains the rejection. }

### *Conclusion*

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- **Wallman** (U.S. Patent no. 6,161,098) discloses a method and apparatus enables an investor with a portfolio of securities to manage taxable events created by trading securities in the portfolio;

- **Stallaert et al.** (U.S. Patent No. 6,035,287) discloses allowing market participants to exchange bundles of assets, including assets in different asset classes, where the market participant may value the bundle as an entity, alleviating the need to attempt to attain a value objective in the aggregate by valuing and trading assets individually;

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- **Meltzer** (U.S. Patent No. 6,125,391) discloses a market making node in a network routes machine readable documents to connect businesses with customers, suppliers and trading partners; and
- **Kramer** (U.S. Patent No. 5,038,284) discloses a central computer equipped with communications hardware and specially designed software receives transaction data from personal transaction stations operated by traders, sends back verification information to the traders, reconciles all trades, informs traders when an error occurs, generates complete records of all transactions, reports price and volume data to quote vendors, provides numerous reports which analyze trading activity to detect potential regulatory violations, creates a complete real-time backup copy of all data, and provides intraday profit, loss, risk, and margin information to exchange and Futures Commission Merchant personnel.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Forest Thompson whose telephone number is (703) 306-5449. The examiner can normally be reached Monday-Friday from 7:00 AM to 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wynn Coggins, can be reached at (703) 308-1344.

The fax numbers for the organization are as follows:

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After Final: (703) 746-7238

Official: (703) 746-7239

Non-Official/Draft: (703) 746-7240

Any inquiry of a general nature or relating to the application or processing should be directed to the receptionist whose telephone number is (703) 305-3900.

December 17, 2001 /FOT <sup>17</sup>

  
WYNN COGGINS  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100